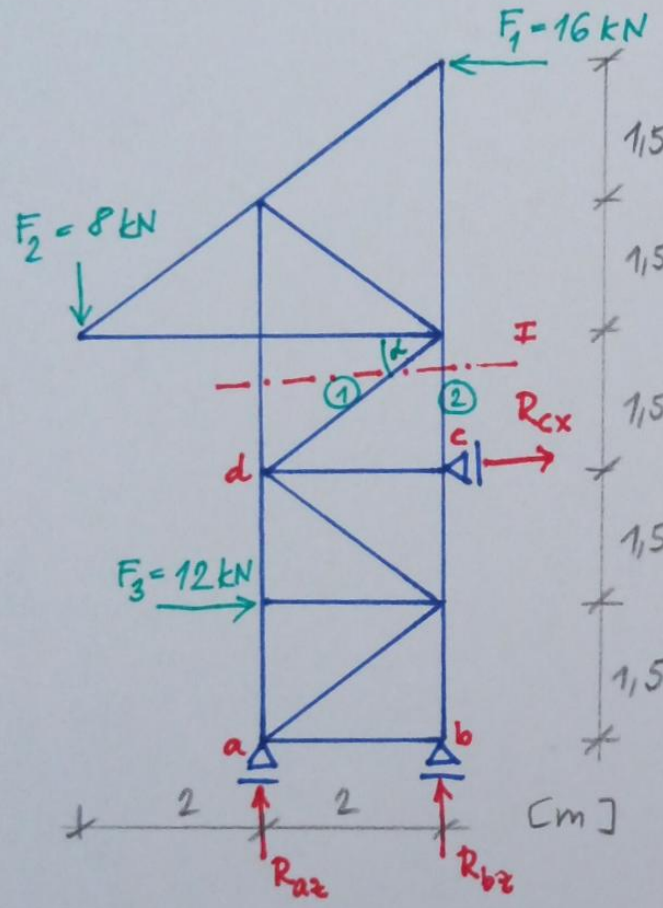
Určete: reakce
: osové síly v prutech 1 a 2



$\oplus\curvearrowright \Sigma M_{id} = 0: \quad F_2 \cdot 2 + F_1 \cdot 4{,}5 + F_3 \cdot 1{,}5 + R_{bz} \cdot 2 = 0$

$R_{bz} = \frac{-8 \cdot 2 - 16 \cdot 4{,}5 - 12 \cdot 1{,}5}{2} = -53\,kN\ (\downarrow)$

$\oplus\curvearrowright \Sigma M_{ic} = 0: \quad F_2 \cdot 4 + F_1 \cdot 4{,}5 + F_3 \cdot 1{,}5 - R_{az} \cdot 2 = 0$

$R_{az} = \frac{8 \cdot 4 + 16 \cdot 4{,}5 + 12 \cdot 1{,}5}{2} = 61\,kN\ (\uparrow)$

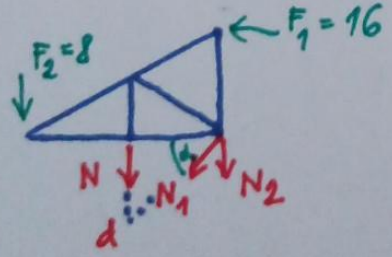
$\oplus\rightarrow \Sigma F_{ix} = 0: \quad F_3 + R_{cx} - F_1 = 0 \Rightarrow R_{cx} = 16 - 12 = 4\,kN\ (\rightarrow)$

KO: $\Sigma F_{iz} = 0: \quad R_{az} + R_{bz} - F_2 = 0 \Rightarrow 61 + (-53) - 8 = 0$ ✓

$\oplus\curvearrowleft \Sigma M_{ia} = 0: \quad F_2 \cdot 2 + F_1 \cdot 4{,}5 - N_2 \cdot 2 = 0$

$N_2 = \frac{8 \cdot 2 + 16 \cdot 4{,}5}{2} = 44\,kN\ (TAH)$

řez I:



$\Sigma M_{ib} = 0 \Rightarrow \Sigma F_{ix} = 0 \ \oplus\leftarrow$:

$l_1 = \sqrt{2^2 + 1{,}5^2}$

$l_1 = 2{,}5\,m$

$\cos\alpha = \frac{2}{2{,}5} = 0{,}8$

$F_1 + N_{1x} = 0$

$F_1 + N_1 \cdot \cos\alpha = 0$

$N_1 = -\frac{16}{0{,}8} = -20\,kN\ (TLAK)$